

**COMMONWEALTH OF VIRGINIA
STATE IMPLEMENTATION PLAN REVISION
FOR
ROANOKE EARLY ACTION COMPACT AREA**

**REMOVAL OF PERMIT IMPLEMENTING A
REASONABLY AVAILABLE CONTROL TECHNOLOGY DETERMINATION
FOR
Norfolk Southern Corporation**

One of the primary goals of the federal Clean Air Act is the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). These standards, designed to protect public health and welfare, apply to six pollutants, of which ozone is the primary focus of this proposed action. Ozone is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_x) in the air react together in the presence of sunlight. VOCs are chemicals contained in gasoline, paints, and other household and industrial products. NO_x emissions are a byproduct from the combustion of fuels and industrial processes.

The National Ambient Air Quality Standard for ozone is 0.08 parts per million (ppm) averaged over 8 hours. It was established by the U.S. Environmental Protection Agency (EPA) to protect the health of the general public with an adequate margin of safety. When concentrations of ozone in the ambient air exceed the federal standard the area is considered to be out of compliance and is classified as "nonattainment." A number of counties and cities in the western Virginia have recently been identified as potential ozone nonattainment areas.

Prior to final establishment of the 8-hour ozone nonattainment areas, EPA developed a program to allow these potential nonattainment areas to voluntarily adopt local emission control programs to avoid air quality violations and mandated nonattainment area controls. Areas with air quality meeting the 1-hour ozone standard were eligible to participate. In order to participate, state and local governments and EPA had to develop and sign a memorandum of agreement that describes the local control measures the state or local community intends to adopt and implement to reduce emissions of ozone-forming air pollutants in advance of air quality violations. In this agreement, also known as an Early Action Compact (EAC), the state or local community agrees to prepare emission inventories and conduct air quality modeling and monitoring to support its selection of emission controls. Areas that participate in the EAC program have the flexibility to institute their own approach in maintaining clean air and protecting public health. For a period of time (generally not to exceed 5 years), participating areas can avoid a nonattainment designation.

Several localities in the Winchester and Roanoke areas have elected to participate in the EAC program. Virginia's strategy for enabling these localities to participate in the EAC program is to have them be subject to VOC and NO_x control measures from which they had been exempt. In order to enable the affected localities to implement these VOC and NO_x controls, the Regulations for the Control and Abatement of Air Pollution were revised to include these affected localities. To this end, the list of VOC and NO_x emissions control areas (9 VAC 5-20-206) was expanded to include the EAC areas as the Western Virginia

Emissions Control Area. By doing so, the VOC and NO_x control rules of Chapter 40 became applicable in these areas

Plans were developed to reach attainment in the EAC areas by 2007. One of the control measures identified in the plans was to require emission controls for NO_x on then uncontrolled major stationary sources. In order to implement the NO_x control measures, the board adopted a regulation (Rule 4-4)¹ which provides that the Department of Environmental Quality (DEQ) must, on case-by-case basis, determine whether there is reasonably available control technology (RACT) to reduce NO_x emissions from major sources for which EPA has not issued A control techniques guideline (CTG). A major source in the Western Virginia Emissions Control Area subject to Rule 4-4 emits or has the potential to emit 100 tons per year of NO_x. CTGs are documents issued to define RACT for a particular source category. RACT is the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. Once RACT is identified for a source, then a legally enforceable means to require the necessary emission reductions, such as a permit, must be adopted.

The Norfolk Southern Railway Company rail car and locomotive maintenance facility located in Roanoke, Virginia was identified as a source subject to RACT. Accordingly, the company prepared a RACT analysis to support the RACT determination for the control of NO_x emissions from the facility. After undergoing public comment, a legally enforceable mechanism (state operating permit) was issued to the source to ensure compliance with the RACT requirement. The permit was then submitted to U.S. EPA as a revision to the Commonwealth of Virginia SIP on February 7, 2005; EPA published its approval of the SIP revision on April 27, 2005 (70 FR 21621).

On August 20, 2007, Norfolk Southern Corporation and DEQ joined a mutual determination of permanent shutdown of the source in accordance with 9 VAC 5-20-220, shutdown of a stationary source:

A. Upon a final decision by the board that a stationary source or emissions unit is shut down permanently, the board shall revoke any permits by written notification to the owner and remove the stationary source or emissions unit from the emission inventory or consider its emissions to be zero in any air quality analysis conducted; and the stationary source or emissions unit shall not commence operation without a permit being issued under the applicable provisions of 9 VAC 5 Chapter 80 (9 VAC 5-80-10 et seq.).

B. The final decision shall be rendered as follows:

1. Upon a determination that the stationary source or emissions unit has not operated for a year or more, the board shall provide written notification to the owner (i) of its proposed decision that the stationary source or emissions unit is considered to be shut down permanently and (ii) that if the owner fails to provide within three months of the notice written response to the board that the shutdown is not to be considered permanent, the decision shall become final within six months of the notice. The response from the owner shall include the basis for the assertion that the shutdown is not to be considered permanent and a projected date for restart-up of the stationary source or emissions unit.
2. If the board should find that the basis for the assertion is not sound or the projected restart-up date allows for an unreasonably long period of inoperation, the decision to

¹ The non-CTG RACT determination requirements have since been removed from Rule 4-4 and relocated to a new Rule 4-51.

consider the shutdown permanent shall become final one year after the date of the notice of the proposed decision.

C. Nothing in any regulation of the board shall be construed to prevent the board and the owner from making a mutual determination that a stationary source or emissions unit is shut down permanently prior to any final decision rendered under subsection A of this section.

The state operating permit regulations also require, in accordance with subsection L of 9 VAC 5-80-1210 (Permit invalidation, suspension, revocation and enforcement), that “nothing in the regulations of the board shall be construed to prevent the board and the owner from making a mutual determination that a permit is rescinded because all of the statutory or regulatory requirements (i) upon which the permit is based or (ii) that necessitated issuance of the permit are no longer applicable.” However, the permit provides that:

The Board may revise (modify, rewrite, change or amend) or repeal this permit with the consent of Norfolk Southern, for good cause shown by Norfolk Southern, or on its own motion provided approval of the revision or repeal is accomplished in accordance with Regulations of the Board and the Administrative Process Act (§ 2.2-4000 et seq.). Such revision or repeal shall not be effective until the revision or repeal is approved by the U. S. Environmental Protection Agency following the requirements of 40 CFR Part 51 (Requirements for Preparation, Adoption, and Submittal of Implementation Plans).

Because the source is permanently shut down, DEQ is requesting that EPA remove the permit from the SIP. Once EPA has approved this request and DEQ has notified Norfolk Southern Corporation of this approval, the permit repeal will become effective 30 days later.

The shutdown agreements between Norfolk Southern Corporation and DEQ are provided in Attachment A. The original permit is included as Attachment B.

TEMPLATES\RACT\PLN01-WVA
RACT\NSR-SIP-1.DOC

**LEGALLY ENFORCEABLE MECHANISM
(MUTUAL DETERMINATION OF PERMANENT SHUTDOWN)
TO ENABLE RESCISSION OF THE RACT PERMIT
FOR**

Norfolk Southern Corporation
Roanoke, Virginia
Registration No. 20468

Under the authority provided in 9 VAC 5-20-220, the Director of the West Central Regional Office signed a mutual determination of permanent shutdown with Norfolk Southern Corporation on August 20, 2007, to be effective that same day. The determination was issued following the procedural requirements of 9 VAC 5-20-220 of Part II of 9 VAC 5-20 (General Provisions).



CEDs
8/21/07
EVENTS List
jr

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

L. Preston Bryant, Jr
Secretary of Natural Resources

West Central Regional Office
3019 Peters Creek Road, Roanoke, Virginia 24019
Telephone (540) 562-6700, Fax (540) 562-6725
www.deq.virginia.gov

David K. Paylor
Director

Steven A. Dietrich
Regional Director

August 20, 2007

Mr. C. J. Wehrmeister, Vice President, Safety and Environmental Protection
Norfolk Southern Corporation
110 Franklin Road, SE - Box 13
Roanoke VA 24042

Location: Roanoke
Registration No: 20468
County-Plant No.: 770-0083

Dear Mr. Wehrmeister:

Attached please find the original mutual determination of permanent shutdown agreement as signed by you on August 14, 2007 and DEQ on August 20, 2007.

If you have any questions, please contact me at 540/562-6783.

Sincerely,

A handwritten signature in cursive script, appearing to read "Lillian J. Alexander".

Lillian J. Alexander
Air Permit Engineer

cc: Frank Adams -> Robina Jordan -> John Lester
Michael J. Scanlan, Ph. D.



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David K. Paylor
Director

Steven A. Dietrich
Regional Director

August 2, 2007

Mr. C. J. Wehrmeister, Vice President, Safety and Environmental Protection
Norfolk Southern Corporation
110 Franklin Road, SE - Box 13
Roanoke VA 24042

Location: Roanoke
Registration No: 20468
County-Plant No: 770-0083

Dear Mr. Wehrmeister:

In response to inquiries and meetings held with Mr. Rob Wallace, the Virginia Department of Environmental Quality (VADEQ) is joining Norfolk Southern Corporation in a mutual determination, pursuant to 9 VAC 5-20-220 of Virginia's Regulations for the Control and Abatement of Air Pollution, regarding the shutting down of a source. The Regulations provide that the VADEQ and the owner of a source may make a "mutual determination that a stationary source or emissions unit is shut down permanently." The Regulations also require that, upon making a final decision that the source is permanently shut down, the VADEQ revoke the permit (9 VAC 5-80-1210 L and 9 VAC 5-80-1985.).

In execution of this mutual determination of permanent shutdown, Norfolk Southern Corporation agrees that:

1. A mutual and final determination has been made that the following equipment at the Norfolk Southern Corporation complex in Roanoke, Virginia is permanently shut down:

Emission Unit	Emission Unit Description	Underlying Permits
8-01	882.6 MMBtu/hr B&W coal-fired boiler	06/18/2001 (PSD) 12/22/2004 (SOP)
8-02	882.6 MMBtu/hr B&W coal-fired boiler	06/18/2001 (PSD) 12/22/2004 (SOP)
8-03	882.6 MMBtu/hr B&W coal-fired boiler	06/18/2001 (PSD) 12/22/2004 (SOP)
37-01	Prep Building - Wheelabrator Frye blasting booth	01/26/1999 (NSR)
37-04	Prep Building - enclosure for railcar painting	none
41-01	Paint Shop - Wheelabrator Frye Model 171 shot blast booth	06/14/2001 (NSR)
41-02	Paint Shop - DeVilbiss paint booth	06/14/2001 (NSR)

Emission Unit	Emission Unit Description	Underlying Permits
41-04	Paint Shop - stencil area	06/14/2001 (NSR)
41-05	Paint Shop - cleaning and purging operations	06/14/2001 (NSR)
42-04	Maintenance Building - Binks booth, Model PFA-10-10T-LH	06/13/2001 (NSR)
59-04	Bolster Reclamation Shop - ring and gib welding	none
8-05	Ash handling system	none
9-01	Coal unloading	none
9-02	Coal transfer and handling	none

2. Norfolk Southern Corporation is the sole owner, as defined in the Regulations, of the equipment;
3. The following four air permits are revoked¹:
 - PSD permit originally issued on April 2, 1984, reissued on June 18, 2001
 - NSR permit January 26, 1999
 - NSR permit originally issued June 30, 1995, amended January 19, 1996 and June 14, 2001
 - NSR permit originally issued March 10, 1998 and amended June 13, 2001
4. The VADEQ will remove the above-referenced equipment from the air emission inventory and will consider its air pollutant emissions to be zero in any future air quality analysis to be conducted; and
5. Upon signature of this document by the VADEQ and by Norfolk Southern Corporation, the above-referenced equipment shall cease operations. No future operation of this equipment shall occur until the owner has obtained a permit pursuant to 9 VAC 5 Chapter 80. Any use of this equipment after execution of this document shall be considered equivalent to construction and operation of a new emissions unit and will subject Norfolk Southern Corporation to the requirement to obtain a permit pursuant to applicable provisions of 9 VAC 5 Chapter 80 in the Regulations.
6. The permanent shutdown of this equipment will become effective upon signature of this document by both parties.
7. The permanent shutdown of equipment is binding upon Norfolk Southern Corporation, its successors in interest, designees, and assigns, jointly and severally.

¹ The SOP for the coal-fired boilers will not be revoked by this mutual shutdown agreement since the permit is part of the SIP.

By authorized signature below, and in accordance with the Virginia Regulations for the Control and Abatement of Air Pollution, Norfolk Southern Corporation and the VADEQ, acting on behalf of the State Air Pollution Control Board, mutually determine that the facility is shut down permanently.

Date: 8-20-07

Steven A. Dietrich

Steven A. Dietrich, P.E.
Regional Director
Virginia Department of Environmental Quality

The terms and conditions of this determination are accepted by Norfolk Southern Corporation.

Date: 8/14/07

C. J. Wehrmeister

Mr. C. J. Wehrmeister
Vice President, Safety and Environmental Protection
Norfolk Southern Corporation

State of Virginia

City/County of Roanoke

The foregoing instrument was acknowledged before me this 14th day of August by
date

Charles J. Wehrmeister, Vice President Safety & Environmental
Printed Name Title

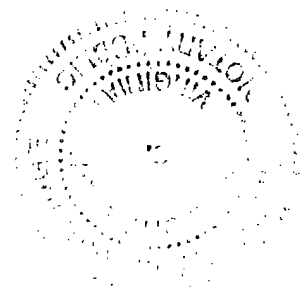
of Norfolk Southern Corporation on behalf of the corporation.

August 14, 2007
date

Kimberly L. Aldridge
Notary Public

My commission expires: May 31, 2008
date

Notary Registration Number: 345960

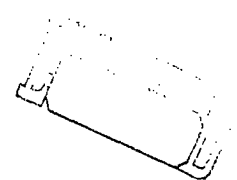




Norfolk Southern Corporation
Environmental Protection
110 Franklin Road, S.E.
Roanoke, Virginia 24042-0013

SEP 9 2005

September 9, 2005
1-9-VA-ROAN-EES-5-2



Ms. Pamela Derk
Virginia Department of Environmental Quality
West Central Regional Office
3019 Peters Creek Road
Roanoke, Virginia 24019

Subject: Norfolk Southern Railway Company - East End Shops (Source # 20468)
Signed Shutdown Agreement

Dear Ms. Derk:

Attached are two (2) signed and notarized copies of the mutual shutdown determination letter drafted for the seven (7) sources of nitrogen oxides at the Norfolk Southern Railway Company, East End Shops facility. We will await receipt of a fully executed copy from your office.

If you have any questions or need additional information regarding the attached agreement, please contact me at (540) 981-5185 or our consultant, Laura Rose, at (804) 515-8561.

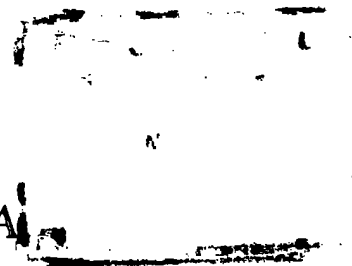
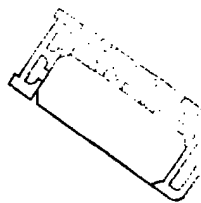
Sincerely,

A handwritten signature in black ink, appearing to read 'Gibson Barbee'.

Gibson Barbee, PE
Engineer, Environmental Design

Attachment

cc: J. G. Naff, NSRC
Laura Rose, Earth Tech



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

West Central Regional Office
3019 Peters Creek Road, Roanoke, Virginia 24019
Telephone (540) 562-6700, Fax (540) 562-6725
www.deq.virginia.gov

Robert G. Burnley
Director

Steven A. Dietrich
Regional Director

June 22, 2005

Mr. Gibson V. Barbee III, P. E.
Engineer, Environmental Design
Norfolk Southern Railway Company – East End Shops
Environmental Protection
110 Franklin Road, S. E.
Roanoke, Virginia 24019

Location: NSRC – East End Shops, Roanoke, VA
Registration No.: 20468
County-Plant No.: 770-0083

Dear Mr. Barbee:

In response to your letter dated May 27, 2005, the Virginia Department of Environmental Quality (VaDEQ) is joining you in a mutual determination, pursuant to 9 VAC 5-80-1210 L and 9 VAC 5-20-220 of Virginia's Regulations for the Control and Abatement of Air Pollution, regarding the shutting down of a source. Norfolk Southern Railway Company (NSRC) – East End Shops has requested the following equipment to be permanently shut down:

Unit ID / Reference No.	Unit Description
#8-04	Zurn Energy spreader-stoker coal-fired boiler (Boiler #4) rated at 82.6 MMBtu/hr
#43-03	Fifteen (15) open-front oil-fired metal heating furnaces rated at 2.7 MMBtu/hr each (part of Blacksmith Shop in the Car Shop)
#51-13/14	One 13-ton capacity electric arc furnace (part of the Foundry in the Car Shop)
#43-02	Natural gas-fired rivet mill furnace rated at 4.69 MMBtu/hr (part of Blacksmith Shop in Car Shop)
#51-02	Natural gas-fired Therm-Craft annealing oven rated at 7 MMBtu/hr (part of the Foundry in the Car Shop)
#51-03	Natural gas-fired core oven rated at 3 MMBtu/hr (part of the Foundry in the Car Shop)
#51-18	Natural gas-fired flame hardening system by Wisconsin Oven Corp. rated at 6 MMBtu/hr (part of the Foundry in the Car Shop)

The Regulations provide that the VaDEQ and the owner of a source may make a “mutual determination that a stationary source or emissions unit is shut down permanently.” The Regulations also require that, upon making a final decision that the source is permanently shut down, the VaDEQ review permits or portions of permits for amendment or revocation.

Please sign, notarize and return **both** copies of this mutual shutdown determination letter. Upon receipt, the VaDEQ will sign both copies and return one for your records.

In execution of this mutual determination of permanent shutdown, Norfolk Southern Railway Company agrees that:

1. A mutual and final determination has been made that the equipment listed above located at the NSRC – East End Shops facility in Roanoke, Virginia is permanently shut down;
2. Norfolk Southern Railway Company is the sole owner, as defined in the Regulations, of the equipment listed above;
3. Any air permits issued for the equipment listed above shall be re-evaluated under the Regulations;
4. The DEQ will remove the equipment listed above from the air emission inventory and will consider its air pollutant emissions to be zero in any future air quality analysis to be conducted; and
5. Upon signature of this document by the Virginia DEQ and by Norfolk Southern Railway Company, the equipment listed above shall have ceased operation. No future operations shall occur until the owner has obtained a permit pursuant to 9 VAC 5 Chapter 80. Any use of the equipment listed above after execution of this document shall be considered equivalent to construction and operation of a new emissions unit and will subject Norfolk Southern Railway Company to the requirement to obtain a permit pursuant to applicable provisions of 9 VAC 5 Chapter 80 in the Regulations.
6. The permanent shutdown of the equipment listed above will become effective upon signature of this document by both parties.
7. The permanent shutdown of the equipment listed above is binding upon either Norfolk Southern Railway Company or any subsequent owner of the equipment listed above.

By authorized signature below, and in accordance with the Virginia Regulations for the Control and Abatement of Air Pollution, Norfolk Southern Railway Company and the Virginia Department of Environmental Quality, acting on behalf of the State Air Pollution Control Board, mutually determine that the equipment listed above is shut down permanently.

Virginia Department of Environmental Quality:

Date: 9-9-05

Signature: Steven A. Dietrich

FOR Robert G. Burnley, Director
Virginia Department of Environmental Quality

The terms and conditions of this determination are accepted by Norfolk Southern Railway Company.

Date: 9/9/05

Signature: J. Gary Naff

Title: Manager Locomotive Shop

Notarization:

State of VIRGINIA

City/County of ROANOKE

The foregoing instrument was acknowledged before me this 9th day of SEPTEMBER, 2005 by
(Date)

E J. GARY NAFF, MGR. LOCOMOTIVE SHOP of
(Name) (Title)

Norfolk Southern Railway Company, a Virginia corporation, on
(Place of Incorporation)
behalf of the corporation.

9/9/05
(Date)

Theresa A. Hargrove
(Notary Public)

My commission expires: My Commission Expires August 31, 2009
(Date)

Mr. Gibson V. Barbee III
Norfolk Southern Railway Company – East End Shops
Registration No.: 20468
June 22, 2005
Page 4

If you have questions concerning this matter, please contact me at the regional office at 540-562-6732.
Your concern for Virginia's Air Quality is appreciated.

Sincerely,



Pamela J. Derk
Environmental Specialist II – Air Division



MJS/PJD/20468.2005-06-22.nsrrex.sig.doc

cc: Michael J. Scanlan, Air Permit Manager, DEQ/WCRO
Bob Saunders, Air Compliance Manager, DEQ/WCRO > John Lester, Air Inspector Sr.
Ms. Kimberly Lanterman, EarthTech (electronic copy)
file

**ORIGINAL RACT PERMIT
FOR THE CONTROL OF NO_x EMISSIONS
FROM**

Norfolk Southern Corporation
Roanoke, Virginia
Registration No. 20468

Under the authority provided in 9 VAC 5-170-180 and Section IV B 2 of Agency Policy Statement No. 2-2003 (dated June 20, 2003), the Director of the West Central Regional Office approved and issued the permit on December 22, 2004, to be effective that same day. The permit was approved and issued following the procedural requirements of Article 5 (9 VAC 5-80-800 et seq.) of Part II of 9 VAC 5-80 (Permits for Stationary Sources).

Because the source is permanently shut down, DEQ is requesting that EPA remove the permit from the SIP. Once EPA has approved this request and DEQ has notified Norfolk Southern Corporation of this approval, the permit repeal will become effective 30 days later.



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

West Central Regional Office
3019 Peters Creek Road, Roanoke, Virginia 24019
Telephone (540) 562-6700, Fax (540) 562-6725
www.deq.state.va.us

Robert G. Burnley
Director

Steven A. Dietrich
Regional Director

December 22, 2004

Mr. Douglas C. Corbin
Manager, East End Shops
Norfolk Southern Railway Company
110 Franklin Road
Roanoke, Virginia 24042-0013

Location: Roanoke City
Registration No.: 20468
County / Plant ID: 770-0083

Dear Mr. Corbin:

Attached is a permit to operate a rail car and locomotive maintenance facility located in Roanoke, Virginia, in accordance with the provisions of the Commonwealth of Virginia State Air Pollution Control Board's (Board) Regulations for the Control and Abatement of Air Pollution (Regulations). This permit is for the purpose of implementing the "reasonably available control technology" (RACT) requirements of 9 VAC 5-40-310 and 9 VAC 5-40-311 of the Regulations of the Board. Except to the extent that conditions in this permit may be more stringent, this permit does not supersede or replace any other valid permit. Furthermore, this approval to operate shall not relieve Norfolk Southern Railway Company of the responsibility to comply with all other local, state and federal regulations, including permit regulations.

Failure by Norfolk Southern Railway Company to comply with any conditions of this permit shall constitute a violation of a Permit of the Board. Failure to comply may result in a Notice of Violation and civil penalty. Please read all permit conditions carefully.

At any time in the future, should Norfolk Southern Railway Company plan any modifications (within the context of the new source review program) of the facility covered by this permit, Norfolk Southern Railway Company shall have the right to apply to the Board for a new source review permit and the Board may consent to such modifications provided such modifications will meet all of the new source review program regulatory requirements in existence at that time.

9 VAC 5-170-200 of the Regulations of the Board provides that you may request a formal hearing from this case decision by a petition to the Board within thirty days after this case decision notice was mailed or delivered to you. Please consult the relevant regulations for additional requirements for such requests.

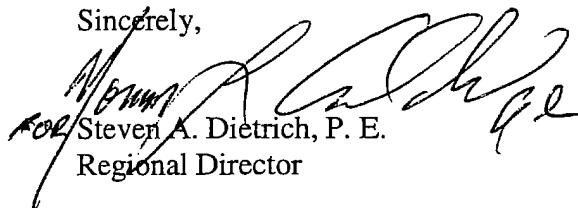
Additionally, as provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal to court by filing a Notice of Appeal with:

Robert G. Burnley, Director
Department of Environmental Quality
P. O. Box 10009
Richmond, VA 23240-0009

In the event that you receive this permit by mail, three days are added to the period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for additional information including filing dates and the required content of the Notice of Appeal.

If you have any questions concerning this permit, please call John Lester, Air Compliance Inspector Sr., or Pamela Derk, Environmental Specialist II - Air Division at (540) 562-6700.

Sincerely,


Steven A. Dietrich, P. E.
Regional Director

SAD/pjd/20468124 NOx RACT SOP fnl.doc
Attachments: State Operating Permit

- cc. Director, OAPP (electronic file submission)
Manager, OAPP Data Analysis (electronic file submission)
Chief, Air Enforcement Branch (3AP13). US.EPA, Region III
Dr. Michael J. Scanlan, Air Permit Manager, DEQ/WCRO
 > Pamela J. Derk, Env. Specialist II – Air Division, DEQ/WCRO
Bob Saunders, Air Compliance Manager, DEQ/WCRO
 > John F. Lester, Air Compliance Inspector Sr., DEQ/WCRO
✓ Source File



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Secretary of Natural Resources

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www.deq.state.va.us

Robert G. Burnley
Director
Steven A. Dietrich
Regional Director

STATIONARY SOURCE PERMIT TO OPERATE

This permit implements the requirements for Reasonably Available Control Technology (RACT) for Nitrogen Oxides (NO_x) in the Western Virginia Emissions Control Area.

This permit (i) is for the purpose of implementing the "reasonably available control technology" (RACT) requirements of 9 VAC 5-40-310 and/or 9 VAC 5-40-311 of the Regulations of the Board and (ii) establishes control technology and other requirements for the control of nitrogen oxides (NO_x) emissions from the Norfolk Southern Railway Company – East End Shops facility in the Western Virginia Emissions Control Area. These RACT requirements shall be the legal and regulatory basis for control of NO_x emissions from this facility.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Norfolk Southern Railway Company - East End Shops
Registration No.: 20468
County / Plant ID: 770-0083

is authorized to operate

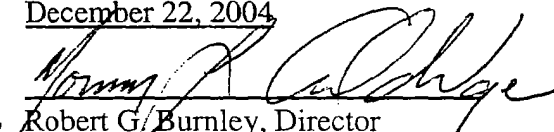
a rail car and locomotive maintenance facility

located at

110 Franklin Road
Roanoke, Virginia 24042-0013

in accordance with the Conditions of this permit.

Approved on: December 22, 2004

for 
Robert G. Burnley, Director
Department of Environmental Quality

Permit consists of 7 pages.
Permit Conditions 1 to 19.
Source Report Testing Format

PERMIT CONDITIONS - The regulatory reference or authority for each condition is listed in parentheses after each condition.

PROCESS REQUIREMENTS

1. **Equipment List: RACT Demonstration Required** – According to 9 VAC 5-40-310, a demonstration of RACT is required for the following equipment which are sources of NO_x emissions and implemented through the remaining conditions of this permit:

- Four (4) coal-fired stoker boilers each rated at 82.6 MMBtu/hr. These boilers are in the Power House, which is part of the Locomotive Shop
 - Unit ID # 8-01 - B & W Stirling coal-fired spreader stoker boiler
 - Unit ID # 8-02 - B & W Stirling coal-fired spreader stoker boiler
 - Unit ID # 8-03 - B & W Stirling coal-fired spreader stoker boiler
 - Unit ID # 8-04 - Zurn Energy coal-fired spreader stoker boiler;
- Fifteen (15) open-front oil-fired metal heating furnaces rated at 2.7 MMBtu/hr each (part of Blacksmith Shop in the Car Shop)
 - Unit ID # 43-03;
- One 13-ton capacity electric arc furnace (part of the Foundry in the Car Shop)
 - Unit ID # 51-13/14

(9 VAC 5-40-310)

Equipment List: RACT Demonstration Not Required - A demonstration of RACT is not required for the following equipment which are sources of NO_x emissions:

- Bayco natural gas-fired oven rated at 2.91 MMBtu/hr (also part of the Locomotive Shop)
 - Unit ID # 29-02
- Natural gas-fired rivet mill furnace rated at 4.69 MMBtu/hr (part of Blacksmith Shop in Car Shop)
 - Unit ID # 51-13/14

- Natural gas-fired Therm-Craft annealing oven rated at 7 MMBtu/hr (part of the Foundry in the Car Shop)
 - Unit ID # 51-02
- Natural gas-fired core oven rated at 3 MMBtu/hr (part of the Foundry in the Car Shop)
 - Unit ID # 51-03
- Natural gas-fired flame hardening system by Wisconsin Oven Corp. rated at 6 MMBtu/hr (part of the Foundry in the Car Shop)
 - Unit ID # 51-18
- 1000 kW emergency diesel generator located in the Power House (part of the Locomotive Shop)
- 115 kW emergency diesel generator located in the Signal Shop - Building 67.

(9 VAC 5-40-311 C 3)

2. **Boiler Nitrogen Oxides (NO_x) Emissions Control** – NO_x emissions from each of the coal-fired boilers (Unit ID #s 8-01, 8-02, 8-03 and 8-04) shall be controlled by a combination of good combustion practices and proper operation and maintenance. Operators shall be trained in the proper operation of all such equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum. The permittee shall maintain records of the required training including a statement of time, place and nature of training provided. The permittee shall have available good written operating procedures and a maintenance schedule. These procedures shall be based on the manufacturer's recommendations, at minimum. All records required by this condition shall be kept on site and made available for inspection by the DEQ.
(9 VAC 5-40-310 and 9 VAC 5-80-850)

3. **Metal Heating Furnace NO_x Emissions Control** – NO_x emissions from the metal heating furnaces (Unit ID # 43-03) shall be controlled by proper operation and maintenance. Operators shall be trained in the proper operation of all such equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum. The permittee shall maintain records of the required training including a statement of time, place and nature of training provided. All training requirements as stated in this condition shall be valid upon the continued operation of the metal heat furnaces. The permittee shall have available good written operating procedures and a maintenance schedule. These procedures shall be based on the

manufacturer's recommendations, at minimum. All records required by this condition shall be kept on site and made available for inspection by the DEQ.
(9 VAC 5-40-310 and 9 VAC 5-80-850)

4. **Electric Arc Furnace NO_x Emissions Control** – NO_x emissions from the electric arc furnace (Unit ID # 51-13/14) shall be controlled by proper operation and maintenance. Operators shall be trained in the proper operation of all such equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum. The permittee shall maintain records of the required training including a statement of time, place and nature of training provided. All training requirements as stated in this condition shall be valid upon the continued operation of the electric arc furnace. The permittee shall have available good written operating procedures and a maintenance schedule. These procedures shall be based on the manufacturer's recommendations, at minimum. All records required by this condition shall be kept on site and made available for inspection by the DEQ.
(9 VAC 5-40-310 and 9 VAC 5-80-850)

OPERATIONAL LIMITATIONS

5. **Operating Limits** - The boiler house may at no time be operated at a level above 210,000 lb/hr steam output. This level is consistent with the maximum design capacity and permitted operational limit of the boiler house (247.8×10^6 BTU/hr).
(9 VAC 5-80-850)
6. **Fuel** - The approved fuel for the boilers (Unit ID #s 8-01, 8-02, 8-03 and 8-04) is coal. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-850)
7. **Fuel** - The approved fuel for the 15 metal heating furnaces (Unit ID # 43-03) is distillate oil. Distillate oil is defined as fuel oil that meets the specifications for fuel oil numbers 1 or 2 under the American Society for Testing and Materials, ASTM D396 "Standard Specification for Fuel Oils." A change in the fuels may require a permit to modify and operate.
(9 VAC 5-80-850)

EMISSIONS LIMITATIONS

8. **Boiler NO_x Emission Limit** - NO_x emissions from each boiler (Unit ID #s 8-01, 8-02, 8-03 and 8-04) shall not exceed 0.4 lbs/MMBtu. Compliance with this emission limit shall be demonstrated as provided in Condition 10 no later than November 15, 2005.
(9 VAC 5-80-850 and 9 VAC 5-40-311)

9. **Requirements for Exempt Emission Units** - Emission units listed in Condition 1 for which a RACT demonstration is not required shall at all times, including periods of startup and shutdown, be maintained and operated to the extent possible in a manner consistent with good air pollution control practices of minimizing emissions.
(9 VAC 5-40-20 E)

TESTING

10. **Boiler Performance Testing** – The permittee shall conduct initial performance tests to measure NO_x emissions for each boiler (Unit ID #s 8-01, 8-02, 8-03 and 8-04) to determine compliance with the emission limits as stated in Condition 8. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30, and the test procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410 (EPA Reference Test Methods). All details of the tests are to be arranged with the Air Compliance Manager, West Central Regional Office. The permittee shall submit an original and one copy of a test protocol at least 30 days prior to testing. Compliance with the emission limit shall be demonstrated as provided in the initial performance testing no later than November 15, 2005. An original and one copy of the test results shall be submitted to the Air Compliance Manager, West Central Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-40-30 and 9 VAC 5-80-880)

NOTIFICATIONS

11. **Notification** - The permittee shall notify the Air Compliance Manager, West Central Regional Office, in writing within 10 business days of the continued operation of any of the fifteen (15) open-front oil-fired metal heating furnaces rated at 2.7 MMBtu/hr each (Unit ID # 43-03) or the 13-ton capacity electric arc furnace (Unit ID # 51-13/14). The notification shall include a training schedule for operator training, applicable as required in Conditions 2 and 3 of this permit.
(9 VAC 5-80-850)

RECORDS

12. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Air Compliance Manager, West Central Regional Office. These records shall include, but are not limited to:

- a. The total amount of NO_x emitted from the facility using methods and/or calculations approved by DEQ, calculated monthly as the sum of the previous consecutive twelve-month period.
- b. Annual production of steam from the powerhouse boilers (Unit ID#s 8-01, 8-02, 8-03 and 8-04), calculated monthly as the sum of the previous consecutive twelve-month period.
- c. The name of the fuel supplier for coal, distillate oil and natural gas.
- d. A statement that the distillate oil used in the metal heating furnaces (Unit ID # 43-03) meets the specifications for fuel oil numbers 1 or 2 under the American Society for Testing and Materials, ASTM D396 “Standard Specification for Fuel Oils.”
- e. The performance test reports for the boilers.
- f. Records of boiler, metal heating furnace and electric arc furnace operator training, maintenance schedules and record of maintenance performed as required in Condition 2, 3 and 4.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-40-390 and 9 VAC 5-80-900)

GENERAL CONDITIONS

13. **Relationship to other Permit Requirements** - Except to the extent that the conditions in this permit may be more stringent, this permit does not supersede or replace any other valid permit, regulatory or statutory requirement. Furthermore, this approval to operate shall not relieve Norfolk Southern Railway Company of the responsibility to comply with all other local, state, and federal regulations, including permit regulations.
(9 VAC 5-80-800 D and 9 VAC 5-80-820 F)
14. **Federal Enforceability** - Once the permit is approved by the U.S. Environmental Protection Agency into the Commonwealth of Virginia State Implementation Plan, the permit is enforceable by EPA and citizens under the federal Clean Air Act.
(9 VAC 5-80-800 C.2. and 9 VAC 5-80-820 F)
15. **Permit Modification** - The Board may modify, rewrite, or amend this permit with the consent of Norfolk Southern Railway Company, for good cause shown by Norfolk Southern Railway Company, or on its own motion provided approval of the changes is accomplished in accordance with Regulations of the Board and the Administrative

Process Act (§ 2.2-4000 et seq.); however, such changes shall not be effective until the changes are approved following the requirements of 40 CFR Part 51 (Requirements for Preparation, Adoption, and Submittal of Implementation Plans).
(9 VAC 5-80-960 and 9 VAC 5-80-1000)

16. **Failure to Comply** - Failure by Norfolk Southern Railway Company to comply with any of the conditions of this permit shall constitute a violation of a Permit of the Board. Failure to comply may result in a Notice of Violation and civil penalty. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of orders as appropriate by the Board as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.
(9 VAC 5-80-820 F, 9 VAC 5-80-910 and 9 VAC 5-80-1010)
17. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:
 - a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;
 - b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;
 - c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and
 - d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.
(9 VAC 5-170-130 and 9 VAC 5-80-850)

18. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Air Compliance Manager, West Central Regional Office of the change of ownership within thirty days of the transfer.
(9 VAC 5-80-940)
19. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-80-860 D)

SOURCE TESTING REPORT FORMAT

Cover

1. Plant name and location
2. Units tested at source (indicate Ref. No. used by source in permit or registration)
3. Tester; name, address and report date

Certification

1. Signed by team leader / certified observer (include certification date)
- * 2. Signed by reviewer

Introduction

1. Test purpose
2. Test location, type of process
3. Test dates
- * 4. Pollutants tested
5. Test methods used
6. Observers' names (industry and agency)
7. Any other important background information

Summary of Results

1. Pollutant emission results / visible emissions summary
2. Input during test vs. rated capacity
3. Allowable emissions
- * 4. Description of collected samples, to include audits when applicable
5. Discussion of errors, both real and apparent

Source Operation

1. Description of process and control devices
2. Process and control equipment flow diagram
3. Process and control equipment data

* Sampling and Analysis Procedures

1. Sampling port location and dimensioned cross section
2. Sampling point description
3. Sampling train description
4. Brief description of sampling procedures with discussion of deviations from standard methods
5. Brief description of analytical procedures with discussion of deviation from standard methods

Appendix

- * 1. Process data and emission results example calculations
2. Raw field data
- * 3. Laboratory reports
4. Raw production data
- * 5. Calibration procedures and results
6. Project participants and titles
7. Related correspondence
8. Standard procedures

* Not applicable to visible emission evaluations.